CLAIMS

What is claimed is:

1. An oven door lock mechanism for use with an oven having a door and a frame configured so that the door is adjacent the frame when the door is closed, the lock mechanism comprising:

a latch supported above and coupled to the frame to rotate about a pivot axis and rotatable between an unlatched and latched position, the latch including a follower surface offset from the pivot axis and a latching member extending beyond the frame for interacting with the door;

an actuator pin movably supported by the frame, the actuator pin having an outer end extending beyond the frame for engaging the oven door upon closure and a cam end engaging the follower surface of the latch for rotating the latch into the latched position wherein the door is adapted to be captured by the latch;

a motor driving a shaft when actuated;

a cam mounted to the shaft for rotation thereabout, the cam being rotatable between a non-blocked position and a blocked position wherein the cam blocks movement of the latch from the latched position to the unlatched position and wherein movement of the cam between the non-blocked position and the blocked position is accomplished by rotation of the cam by 60 degrees.

2. The device of claim 1 further comprising a switch controlling a motor driver circuit and wherein movement of the latch between the unlatched and latched positions induces a change in state of the switch from a state in which the motor driver circuit is disabled to a state in which the motor driver circuit is enabled.

3. The device of claim 1 wherein the cam rotates between the non-blocked position wherein rotation of the latch is not inhibited by the cam and the blocked position.

4. The device of claim 3 and further comprising a cam actuated switch and wherein rotation of the cam between the non-blocked position and the blocked position results in actuation of the switch.

5. The device of claim 4 further comprising a switch controlling a motor driver circuit and wherein movement of the latch between the unlatched and latched positions induces a change in state of the switch from a state in which the motor driver circuit is disabled to a state in which the motor driver circuit is enabled.

6. The device of claim 5 wherein the cam includes a three lobed cam having three lobes and each two lobes defining a void therebetween.

7. The device of claim 6 wherein the latch includes a blockable arm having a blocked member offset from the pivot axis and wherein the blocked member is disposed at least partially within one of the voids between two lobes of the cam when the latch is in the unlatched position.

8. The device of claim 3 and further comprising a lever mounted for rotation about a second pivot axis relative to the oven and a link coupling the latch to the lever and wherein the cam blocks rotation of the lever when in the blocked position.

9. The device of claim 8 wherein movement of the latch between the unlatched and latched positions induces movement of the lever which engages and disengages the switch to induce a change in state of the switch from a state in which the motor driver circuit is disabled to a state in which the motor driver circuit is enabled.

10. The device of claim 9 wherein the latch is mounted adjacent the front of the oven and the lever and switch are mounted adjacent the rear of the oven.

11. An oven lock mechanism for use with an oven having a door and a frame surrounding a cooking chamber having an opening selectively closed by engagement of the door with the frame, the lock mechanism comprising:

a mounting plate mounted to the frame;

a latch mounted to the mounting plate for movement about a pivot axis and rotatable about the pivot axis between an unlatched and latched position, the latch including a follower surface offset from the pivot axis;

an actuator pin movably supported by the mounting plate, the actuator pin having an outer end extending beyond the mounting plate for engaging the oven door upon closure and a cam end engaging the follower surface for rotating the latch into the latched position wherein the door is adapted to be captured by the latch;

a blocker selectably rotatable into a blocking position when the latch is in a latched position for interfering with the rotation of the latch such that the latch is locked into the latched position for locking the oven door in a closed position and

an electromechanical actuator mounted to the mounting plate, the actuator rotating the blocker into the blocking position.

12. The device of claim 11 wherein the actuator is a motor.

13. The device of claim 12 wherein the blocker is rotated sixty degrees or less to move between a non-blocked position wherein the blocker does not inhibit rotation of the latch and the blocking position.

14. The device of claim 12 wherein the mounting plate includes a front mounting plate portion coupled to a front of the frame adjacent the cooking compartment opening to which the latch and actuator pin are mounted and a rear mounting plate portion coupled to a rear of the oven to which the motor and blocker are mounted.

15. The device of claim 14 and further comprising a lever mounted to the rear mounting plate portion for movement relative thereto and a link coupling the lever to the latch.

16. The device of claim 15 wherein the blocker inhibits movement of the lever when in the blocking position.

17. The device of claim 16 and further comprising a switch mounted to the rear mounting plate portion and arranged to be selectively actuated by the lever and controlling a motor drive circuit.

18. An oven lock mechanism for use with a self-cleaning oven having a door for selectively closing an opening of a cooking compartment surrounded by a frame and a compressible seal, the oven lock mechanism comprising:

a mounting plate coupled to the frame near the oven compartment opening;

a latch pivotably mounted to the mounting plate about a pivot axis and rotatable between an unlatched and latched position, the latch including a follower surface offset from the pivot axis;

a blockable member mounted for movement relative to the mounting plate the blockable member being coupled to the latch so that when movement of the blockable member is blocked, movement of the latch from the latched to the unlatched position is

inhibited;

an actuator pin movably supported by the mounting plate, the actuator pin having an outer end extending beyond the mounting plate for engaging the oven door upon closure and a cam end engaging the follower surface for rotating the latch into the latched position wherein the door is adapted to be captured by the latch; and

a blocker mounted for movement relative to the mounting plate to selectively block and unblock the blockable member; and

a motor coupled to the mounting plate, the motor when actuated moving the blocker.

19. The device of claim 18 wherein the blockable member rotates about the pivot axis.

20. The device of claim 18 and further comprising an arm mounted for movement relative to the mounting plate, a dual cam including the blocker and an arm engaging cam and wherein the latch is mounted to the arm and when actuated the motor drives the arm engaging cam to move the arm and induce additional movement of the latch from the latched position to a position wherein the oven door engages and compresses the seal.